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09/721,959	11/27/2000	Junichi Kokudo	Q61990	3595

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EXAMINER
MEW, KEVIN D

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _27 November 2000_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-6_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _5 and 6_ is/are allowed.

6)☒ Claim(s) _1-4_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _27 November 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some * c)☐ None of:

         1.☒ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _3_.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1.   Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Malek et al.

(US Patent 5,822,313).

Regarding claim 1, Malek discloses a seamless handover technique between base

stations in a TDMA controller as a wireless telephone handset is transported from one

base station to another, which requires wireless telephone to transmit in a different slot

pair within a frame (**receiving assignment terms for a plurality of time slots and slot**

data from an external source, see lines 43-47 and 63-66, col. 2). Furthermore, Malek

discloses a burst mode controller (**a slot assignment unit**, see element 84 which

comprises elements 92, 93, 94) for creating the slots for transmission in a TDMA

transceiver (**time division multiple access transmitter**, see lines 24-25, and Figure 3),

comprising:

a plurality of Finite State Machine (**a control data generation unit**, see element

126, Figure 4), each of which is a hardware state machine for providing a sequence of

control codes (**producing a set of assignment control data**) and storing the sequence of

control codes in storage devices (**a first table and storing the set of assignment control**

data into an entry of said first table, see line 67, col. 5 and lines 1-3, col. 6) in response

to a series of command signals applied to it from the micro-sequencer core (**in response**

to a command signal applied thereto, see lines 41-44 and 48-52, col. 5, and element 124, Figure 4); and

a Sequencer (see element 94, Figure 3) comprising a micro-sequencer core (see element 124, Figure 3), an address generation unit (element 93, Figure 3), a microcode store (see element 128, Figure 4), and a data RAM (see element 92, Figure 3; note that the Sequencer, AGU, and Data RAM 92 are interpreted as the sequence controller), where the address generation unit (AGU) generates addresses and stores them in RAM 92 **(producing a plurality of address pointers, storing said plurality of address pointers in said second table**; note that RAM 92 is interpreted as **second table**, see lines 12-14, col. 4 and lines 55-57, col. 6), and selects a next address in the microcode store via the address in RAM 92 read by a slot pointer (**address pointers can be sequentially read out in a desired transmission sequence**, see lines 5-7, col. 5, lines 48-53, col. 6 and Figure 5), where microcode store contains a series of commands for the micro-sequencer core, which in turn provides enabling commands (**supplying said command signal**, see lines 41-43, col. 5) to the proper FSM (**to said control data generation unit**) to build a slot for the transmit function (**supplying said command signal to said control data generation unit in response to each of said address pointers**, see lines 48-52, col. 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malek.

Malek discloses all the aspects of the claimed invention set forth in the rejection

of claim 1 above. Malek further discloses a transmit buffer (**data memory**) for storing

data to be transmitted (**a data memory for storing a plurality of transmit data**, see line

14, col. 9). Although Malek does not explicitly disclose the modem interface unit is

sequentially reading address pointers from said starting address of said second table and

reading assignment control data from entries of said first table, Malek does disclose a

modem interface unit (**a framing unit**, see element 95, Figure 3) that receives control

signals from the sequencer and, in response, retrieves the bits from various sources such

as data RAM 92 (note that RAM 92 is a memory means for storing addresses for control

codes) for building the serial bit stream in a slot (see lines 19-22, col. 4, **formulating a**

frame with the read assignment control data and said plurality of transmit data

from said data memory), and receives audio information bits (**a plurality of transmit**

data) from the CODEC interface unit (see lines 3-5, col. 4, and element 90, Figure 3).

Also, it is well known in the art that an address pointer is used to locate the data pointed

to by the address pointer at the starting address of data.

Therefore, it would have been obvious to one ordinary skill in the art at the time

the invention was made to modify the modem interface unit of Malek such that the

control codes of the proper FSM (**assignment control data**) would be read out by the

modem interface unit according to the address being retrieved by the modem interface

unit at RAM92. The motivation to do so is for the modem interface unit to obtain control

codes from the corresponding FSM being pointed to by the address located at RAM 92

because it would provide the corresponding control codes necessary to be formulated

with transmission data in each time slot of a TDMA frame.

3.   Claims 2 & 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Malek in view of Kou (US Patent 5,790,535).

Regarding claims 2 & 4, Malek discloses all the aspects of the claimed invention

set forth in the rejection of claims 1, 3 above, except fails to discloses said set of

assignment control data stored in said first table includes an address of a communication

terminal, a starting address point of each transmit data in said data memory, and a count

number of slots assigned to said entry.   However, Kou discloses a TDMA satellite

channel access system in which the packet data transmitted from the remote earth stations

to the central earth station has a format comprising an overhead field (OH), an address

field (ADRS), and a request field (REQ). The overhead field consists of a unique word

subfield indicative of head of data (**a starting address point of each transmit data in

said data memory**). The address field indicates a sender address of the remote earth

station (**an address of a communication terminal**). The request field (REQ) indicates

the number of time slots for requesting reservation (**a count number of slots assigned to**

each entry, see lines 56-67, col. 4 and lines 1-2, col. 5). Therefore, it would have been

obvious to one ordinary skill in the art the FSM of Malek such that the control codes of

the FSM would include the OH field, the ADRS field, and the REQ field such as the

aforementioned packet data format taught by Kou. The motivation to do so is to decrease

collisions of data sent from each remote station and a delay of transmission of data from

each remote station because the count number of slots indicates an appropriate number of

time slots has already been reserved to adequately accommodate the communication

traffic between the central station and each remote station (a communication terminal).

Allowable Subject Matter

4.   Claims 5 & 6 are allowed.

The following is a statement of reasons for the indication of allowable subject

matter:

Regarding claim 5, a slot assignment method for a time division multiple access

(TDMA) transmitter, comprising the steps of:

c) repeating steps (a) and (b) to produce a plurality of sets of assignment control

data.

g) repeating steps (d) to (f) until all of said assignment control data are stored in

the first table.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure with respect to high speed TDMA slot assignment.

US Patent 5,659,698 to Weng et al.

US Patent 6,249,526 to Loukianov

US Patent 5,241,541 to Farrell et al.

US Patent 5,682,419 to Grube et al.

US Patent 6,208,650 to Hassell et al.

US Patent 5,210,747 to Gauthier et al.

US Patent 5,862,135 to Petty

US Patent 6,545,993 to Bharath et al.

US Patent 5,323,446 to Kojima et al.

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 703-305-5300. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 703-305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RICKY NGO
PRIMARY EXAMINER

KDM
Art Unit 2664